

Observations of Astræa (5), and of Solar Eclipse, May 17, 1863.
By J. Hartnup, Esq.

Observations of *Astræa* (5), taken with the Equatoreal of the Liverpool Observatory:—

	G.M.T.	R.A. (5)	N.P.D. (5)	Star of Comparison.
1863.	h m s	h m s	o ' "	
March 3	8 50 43.0	9 57 16.96	75 14 49.7	Regulus.
" 4	9 31 58.5	9 56 35.06	75 7 44.3	"
" "	9 41 56.2	9 56 34.79	75 7 41.3	"
" "	9 51 54.6	9 56 34.39	75 7 36.9	"

The observations are corrected for refraction and parallax. The place of *Regulus* was taken from the *Nautical Almanac*.

End of Solar Eclipse, observed with the Equatoreal of the Liverpool Observatory:—

1863, May 17 7^h 10^m 48^s.77 G.M.T.

End of Solar Eclipse, observed by John Joynson, Esq., at Waterloo, near Liverpool:—

Lat. 53° 28' 24" N.; long. 3° 1' 44" W.

1863, May 17 7^h 10^m 46^s.5 G.M.T.

Observed with a Refractor of 3½-inches aperture and 50-inches focal length. The time was taken from a clock which is controlled by the Normal Clock at the Liverpool Observatory.

May 17, 1863.

Observation of Solar Eclipse, 1863, May 17.
By Lord Wrottesley.

The end of the Solar Eclipse of the 17th of May was observed at my Observatory at Wrottesley, by my Assistant Mr. Hough, to take place at 7^h 2^m 17^s, Wrottesley Mean Time. Telescope, the 11-foot Equatoreal; aperture, 7¾ inches.

The same phenomenon was observed by myself, with my 45-inch Achromatic and Baird Pocket Chronometer, * No. 2962, at 7^h 2^m 10^s, Wrottesley Mean Time.

The error of the Transit-clock was obtained by the observation of the Transit of a Greenwich Star during the Eclipse.

* This is the instrument which I lent to Sir Leopold M'Clintock, and which accompanied him during his last Polar Expedition.

The chronometer was compared immediately after the termination.

The beginning was lost through clouds. It became clear a short time after the commencement, and then the cusps and the limb of the Moon were sharply defined, and afterwards the limb became very tremulous; it was also very much jagged, as viewed in the larger telescope, resembling the teeth of a saw.

Observations of Occultations of Stars by the Moon; of Eclipses of the Sun and the Moon; and of Eclipses of Jupiter's Satellites; made at the Radcliffe Observatory, Oxford.
Communicated by the Rev. R. Main.

Occultations of Stars by the Moon.

Day. 1863.	Star.	Phenomenon.	Observer.	Instrument.	Oxford M.T.		
					h	m	s
Jan. 27	♌ Arietis	Disap.	M.	Helimeter	5	3	52.7
	"	"	Q.	10-ft. telescope	5	3	53.5
	♌ Arietis	Reap.	M.	Helimeter	6	21	6.2
Mar. 2	♊ Cancri	Disap.	L.	10-ft. telescope	11	42	12.6
April 29	♌ Leonis	Disap.	L.	"	10	20	41.6
	♌ Leonis	Reap.	L.	"	11	21	43.2

The initials M., Q., and L., are those of Mr. Main, Mr. Quirling, and Mr. Lucas.

Eclipse of the Sun, 1863, May 17.

Clouds prevented the beginning of the eclipse from being accurately observed; the time noted when they had cleared away being several seconds too late.

The end was, however, well seen by Mr. Lucas with the 46-inch achromatic telescope mounted on the leads of the Observatory outside the town.

The observed Oxford Mean Solar Time of the last contact was 7^h 6^m 32^s.4.

Eclipse of the Moon, 1863, June 1.

Mr. Lucas observed the beginning and ending of this eclipse with the 10-foot telescope, near the Helimeter Dome.

The Oxford Mean Solar Times are as follow:—

	h	m	s
First contact with the shadow ...	9	41	36
Beginning of total phase ...	10	46	40
Last contact with the shadow ...	13	0	57